

CLAIMS

We claim:

1. A method of identifying a genotype of a transgenic mouse and reducing the variability of a transgene expression in said transgenic mouse, comprising the steps

5 of:

a) introducing into the genome of a mouse a vector comprising a dominant coat color marker containing an expression cassette K14-Ag, a transgene expression cassette having RNA polymerase II large subunit promoter, and a chicken beta-globin HS4 insulator; and

10 b) selecting a mouse for transgenesis by visually detecting a phenotype exhibiting coat color resulting from said expression cassette K14-Ag.

2. The method in claim 1, wherein said insulator and said coat color marker are placed at 5' end of said transgene expression cassette in said vector.

15 3. The method in claim 1, wherein said insulator and said coat color marker are placed at 3' end of said transgene expression cassette in said vector.

4. The method in claim 1, wherein the number of copies of said chicken beta-globin HS4 insulator is 1-6.

20 5. The method in claim 1, wherein said insulator has the same orientation as said transgenic expression cassette and said expression cassette K14-Ag in said vector.

6. The method in claim 1, wherein said insulator has an opposite orientation relative to said transgene expression cassette and said expression cassette K14-Ag in

said vector.

7. A transgenic mouse made by introducing into the genome of a mouse a vector comprising a dominant coat color marker containing an expression cassette K14-Ag, a transgene expression cassette having RNA polymerase II large subunit promoter,
5 and a chicken beta-globin HS4 insulator.

8. A vector for identifying a genotype of a transgenic mouse and reducing the variability of a transgene expression in said transgenic mouse, comprising a dominant coat color marker containing an expression cassette K14-Ag, a transgene expression cassette having RNA polymerase II large subunit promoter, and a chicken beta-globin
10 HS4 insulator.